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## APPLICATION FOR LETTERS PATENT

### UNITED STATES OF AMERICA

Be it known that **Allen Stein**, of 6125 Weatherly Drive, Atlanta, Georgia 30328 has invented certain new and useful improvements in a

### DISPLAY DEVICE

of which the following is a specification.

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## **DISPLAY DEVICE**

### **Cross-Reference to Related Applications**

**[0001]** This application is a continuation-in-part of U.S. Non-Provisional Patent Application Serial No. 10/072,032, filed February 7, 2002; which claims the benefit of U.S. Provisional Patent Application Serial No. 60/318,422, filed September 10, 2001; and a continuation-in-part of U.S. Design Patent Application Serial No. 29/195,008, filed December 4, 2003; which applications are hereby incorporated herein by reference in their entirety for all purposes.

### **Field of the Invention**

**[0002]** The present invention relates generally to methods and devices for displaying products, materials and/or information; and relates more particularly to a display system utilizing display boards or pallet cards of multiple and differing size and/or shape, and to associated display methods, for improving the display presentation of floor covering products or other materials.

### **Background of the Invention**

**[0003]** Currently, many types of materials and information such as carpet, wood flooring, laminate, vinyl, ceramic, rugs and other floor covering products, wall-paper, paneling and paint, as well as associated marketing information, pricing, etc., are displayed on loose samples or on page or board-type displays referred to as pallet card displays or rack and board displays. Each pallet card typically displays one or more samples of a floor covering product or other material and/or information on one or both of its sides. The cards can be made of, for example, card stock, wrapped card stock, hardboard, styrene, formed or molded plastic products, wood, metal, or other material(s). One or more such pallet cards are typically attached to a display fixture or rack of some type, including but not limited to floor-standing or wall-mounted support

devices using a short pin-long pin mounting method, rods, hinges, or other attachment means to secure the cards thereon. The display device usually has a single array of display cards, or one row of pallet cards to a side, although in some instances, multi-tiered arrays of small cards are used.

**[0004]** Typically all pallet cards in an array on the display device are approximately the same size and shape, with card sizes commonly ranging from as small as 16"x 16" on small displays to as large as 24"x48" on large displays. Usually the long dimension forms the spine of the pallet card, which is pivotally mounted to the support device. While some current displays are adjustable to allow use of card arrays of various sizes all known systems use only one size card, both in height and width, on any one array of the display.

**[0005]** It has been found that currently known display devices limit the ability to display material or information on underlying cards of an array, since overlying cards of the array, typically being of about the same size and shape as the underlying cards, cover substantially all of the surface area of the underlying cards, and obscure the presence of any information or other materials provided on fixed panels of the display device's frame behind the array of cards. Although a viewer typically can pivot the overlying cards out of the way to view an underlying card, many viewers will not always put forth the time and effort to flip through an entire array to view the material on every one of the cards. Moreover, many "impulse" buyers will not even bother to approach a display if material they might be interested in is hidden from view by overlying cards bearing material that they are not interested in.

**[0006]** Thus, it can be seen that needs exist for improved display devices and methods of display.

**Summary of the Invention**

**[0007]** The present invention is directed to display devices and methods for providing improved display characteristics, greater ability to convey information to customers, and being more user-friendly than previously known display systems. The display device and method of the present invention assist both the customer and the dealer by making it easier to organize and understand various product features. For example, product features such as price points can be indicated and related to the consumer and/or the dealer by a corresponding display feature such as the size and/or shape of the display panel or board on which the product is mounted. The display device and method of the present invention also provide improved visual impact and permit easier product comparison, allowing multiple types or styles of product to be viewed simultaneously. Additionally, the dealer can more readily “trade up” when selling to a customer due to the ability to display larger-sized samples of more expensive product, and to explain and show multiple price points for product based on a relation between pricing and display panel size. The display device and method of the present invention also enable a more focused impact display, wherein multiple samples of variations of the same type of material, for example samples of the same carpet pattern in a spectrum of different colors, are displayed on panels of the same display device.

**[0008]** In one aspect, the invention is a display device for displaying samples of a plurality of different materials to potential purchasers. The display device of the present invention includes a rack comprising a fixed body panel; a plurality of display panels detachably mounted to said rack, at least one of said plurality of display panels being a hinged panel pivotally movable between a first position overlying a portion of another of said plurality of panels, and a second position not overlying the other panel, each of said plurality of panels comprising a free edge distal said rack, wherein the free edge of each of the plurality of display panels extends beyond the free edge of any overlying

panels when the panels are in the first position; and each of said plurality of display panels having a material sample displayed thereon, each said material sample extending to the free edge of the panel it is mounted on.

**[0009]** In another aspect, the invention is display device for displaying samples of a plurality of different materials to potential purchasers. The present invention includes a rack having a base, a body panel extending generally upright from said base, and a story-board extending laterally from said body panel. An array of display panels is mounted to said rack, overlying a portion of the story-board such that the story-board is only partially visible behind the array of display panels.

**[0010]** In still another aspect, the invention is a display device for displaying samples of a plurality of different materials to potential purchasers, wherein the present invention includes a first array of display panels pivotally mounted to a first side of a rack, and a second array of display panels pivotally mounted to a second side of the rack, wherein underlying display panels of each of the first and second arrays have a free edges with material samples thereon extending beyond the free edges of overlying display panels, and wherein story-board portions of the rack are partially visible behind each of the first and second arrays of display panels.

**[0011]** These and other aspects, features and advantages of the invention will be understood with reference to the drawing figures and detailed description herein, and will be realized by means of the various elements and combinations particularly pointed out in the appended claims. It is to be understood that both the foregoing general description and the following brief description of the drawings and detailed description of the invention are exemplary and explanatory of preferred embodiments of the invention, and are not restrictive of the invention, as claimed.

**Brief Description of the Drawing Figures**

**[0012]** Figure 1 shows a perspective view of a display device according to one example form of the present invention.

**[0013]** Figure 2 shows a perspective view of a display device according to another example form of the present invention.

**[0014]** Figures 3A and 3B show perspective views of alternate forms of display devices.

**[0015]** Figure 4 shows a set of display panels according to another example form of the present invention.

**[0016]** Figure 5 shows a set of display panels according to still another example form of the present invention.

**Detailed Description**

**[0017]** The present invention may be understood more readily by reference to the following detailed description of the invention taken in connection with the accompanying drawing figures, which form a part of this disclosure. It is to be understood that this invention is not limited to the specific devices, methods, conditions or parameters described and/or shown herein, and that the terminology used herein is for the purpose of describing particular embodiments by way of example only and is not intended to be limiting of the claimed invention. Also, as used in the specification including the appended claims, the singular forms “a,” “an,” and “the” include the plural unless the context clearly dictates otherwise. Ranges may be expressed herein as from “about” or “approximately” one particular value and/or to “about” or “approximately” another particular value. When such a range is expressed, another embodiment includes from the one particular value and/or to the other particular value. Similarly,

when values are expressed as approximations, by use of the antecedent “about,” it will be understood that the particular value forms another embodiment.

**[0018]** Figure 1 shows a display device 10 according to an example embodiment of the present invention. The device preferably comprises a rack 12, and one or more arrays or sets (two are shown) of at least two display panels 14 mounted to the rack. The rack 12 is optionally mounted to a fixed body panel 18 having one or more support members such as legs or base elements 16 for supporting the display device on a floor, wall or other support surface, affixed to the fixed body panel 15. Alternatively, the rack and the fixed body panel are combined into a single component. The rack 12 also optionally comprises one or more fixed story-boards 19 extending laterally from the body panel 18 for supporting the overlying array of display panels, and/or for application of material, information, marketing literature, and/or decorative effects.

**[0019]** At least one of the display panels 14 is preferably pivotally connected to the rack 12 by one or more pivotal couplings 20, such as hinges, pin couplings, bearings, and/or other attachment means. The panel(s) 14 can be pivotally connected directly to the rack 12, or pivotally connected indirectly to the rack as by connection to another panel that is itself directly or indirectly connected to the rack. Alternatively, the rack 12 may be omitted, and the display panels pivotally connected to one another. Overlying panel(s) 14 are preferably pivotally connected to the rack 12 or to an underlying panel 14, so that the overlying panel(s) can be pivoted (as for example, in the manner of turning a page of a book) out of the way to allow the observer to view the entirety of the underlying panel. For example, each panel 14a-14f, and 14a'-14f', pivot between a first or “open” position overlying a portion of the immediately adjacent underlying panel, and a second or closed position permitting the entirety of the immediately adjacent underlying panel to be viewed by an observer facing the front of the device 10.

**[0020]** In a further preferred embodiment of the invention, the rack 12 has a first set or array of two or more display panels pivotally mounted to a first side thereof, and a second array of two or more display panels pivotally mounted to a second side thereof; and a first story-board 19 extending from one side of the base panel 15 and partially visible behind the first array of panels, and a second story-board 19 extending from the other side of the base panel and partially visible behind the second array of panels. For example, the depicted embodiment comprises two arrays of panels, each array comprising six display panels 14a, 14b, 14c, 14d, 14e and 14f, one array being arranged on a first side of the rack 12, and the other array on a second side of the rack and designated with primes.

**[0021]** At least one of the display panels overlies at least a portion of another display panel, and preferably has at least one dimension that is smaller than a corresponding dimension of the underlying display panel. In preferred form, the entirety of the overlying display panel overlies the underlying panel. Alternatively, only a portion of the overlying panel overlies the underlying panel, resulting in a partially offset or overlapping array configuration. For example, in the embodiment of Fig. 1, display panel 14a overlies display panel 14b, and display panel 14a has a height and a width less than the height and width, respectively, of display panel 14b. Successive underlying display panels 14 preferably each have at least one dimension that is larger than an overlying panel, and/or have at least a portion extending beyond an edge of an overlying panel, whereby a portion of each panel is visible to an observer, even when underlying panels are partially covered by an overlying panel. Preferably, if a plurality of panels 14 are provided, their sizes are proportionally stepped in increments from smaller to larger. For example, in the depicted embodiment, panel 14d is longer and wider than panel 14c, panel 14c is longer and wider than panel 14b, and panel 14b is longer and wider than panel 14a. In preferred forms, each panel is larger or smaller than an adjacent panel by an equal increment, or by progressively increasing or decreasing increments.



**[0022]** Each pallet card 14 preferably has a displayed material 22 affixed on one or both sides thereof, which displayed material extends substantially all the way to the free edge of the pallet cards. In this manner, a substantial portion of the displayed material affixed on all cards in the array is visible to a viewer without the need for flipping through the array of cards. If the viewer wishes to see the entirety of an underlying card, he or she can more easily locate the card of interest from its visible portion, and immediately flip the overlying card(s) out of the way of the card of interest. In further preferred and optional embodiments of the invention, the size of the displayed material 22 that is mounted on each card 14 of an array varies with the size of the card. For example, successively larger samples of displayed material 22 are mounted to successively larger (underlying) cards of each array. In this manner, more substantial portions of the material 22 mounted on underlying cards are visible to the potential customer.

**[0023]** In a further variation of this aspect of the invention, progressively larger cards (and correspondingly, larger sizes of the samples mounted to those cards) are used to display progressively more expensive materials. In this manner, a sales professional can more effectively communicate pricing information to potential customers, and identify differences in the sampled materials that may justify these cost differences by means of a side-by-side comparison. It is also believed that many customers will unconsciously relate a greater perceived value to a material displayed with a greater sample size, and vice-versa.

**[0024]** The provision of one or more story-boards 19 that are only partially visible behind the array of display panels (to an observer standing in front of the display device, with the array of panels 14 between the observer and the story-board, as seen in Fig. 1), has been found to draw customers to the device, and subliminally encourage them to flip through the entire array of panels to discover what information or material was previously partially obscured by the panels. This provides a salesperson with a

natural opening to engage the potential customer, and it is believed that the more time and effort that a customer invests in reviewing the sampled materials, and the information on the display device, the more likely he or she is to complete a purchase.

**[0025]** In various alternative embodiments, the display device of the present invention includes one or more sets of pallet cards that vary in size in at least one dimension (i.e., each card of a set has a height, width and/or shape that differs from each other card in the set); and each set is preferably arranged in one or more arrays of cards, for example, from smaller to larger, presented a center out format, a left to right format, a right to left format and/or combinations thereof. In other example embodiments of the invention, pallet cards of the same height are displayed in one or more arrays with varying widths from narrow to wide presented in, for example, a center out format, left to right format, right to left format, and/or any combination thereof. In still other embodiments, the display device of the present invention comprises one or more vertical arrays of cards having the same or different widths, arrayed with longer cards behind shorter cards and/or one or more arrays of cards arranged diagonally, offset at some angle from the horizontal or the vertical, or in a curved or irregular array. In other embodiments, cards of approximately the same height and/or width, but having differing shapes, are arranged to leave at least a portion of an underlying card visible beneath an overlying card.

**[0026]** For example, Fig. 2 shows another embodiment of a display device 110 according to the present invention, wherein one or more arrays (two are depicted) of panels 114 are pivotally connected to a rack 112 by one or more couplings 120. Successive underlying display panels 114a, 114b, 114c and 114d of about the same height preferably have incrementally larger widths than their immediately overlying panel. The partly-opened position of panel 114a is indicated in broken lines in Fig. 2, for reference. Of course, it will be understood that the invention also comprehends an

array of two or more display panels of about the same width, and with underlying panels having incrementally larger heights than their immediately overlying panel.

**[0027]** And although the depicted embodiments show rectangular display panels, the invention also includes cooperating sets or arrays of display panels with other than rectangular shapes, such as for example, an array of two or more triangular, rectangular, circular, oval and/or otherwise shaped display panels wherein one panel has at least one dimension larger than a corresponding dimension of another panel. The two or more differently-sized display panels of an array can all have the same or similar shapes, or alternatively the array can comprise two or more display panels each having a different shape, wherein at least a portion of an underlying panel extends beyond an adjacent overlying panel. For example, a circular panel of diameter  $d$  can overlie a square panel having a side width of  $d$  or greater, whereby at least the corners of the underlying square panel extend beyond the overlying round panel and are thereby observable by a viewer. In still other embodiments, overlying panels define one or more openings through which portions of underlying panels are visible. Differently shaped panels of a set can be approximately the same size, or alternatively can also differ in size. Likewise, differently sized panels of a set can have the same shape or different shapes.

**[0028]** For example, Fig. 3A shows an additional alternate embodiment of the display device 210 of the present invention, with display panels 214 having radiused edges on their unattached or free sides. This embodiment includes panels 214a, 214b, 214c and 214d wherein each successive underlying panel is progressively wider than its next adjacent overlying panel. The display device 310 of Fig. 3B, for comparison, includes panels 314 of generally the same size and shape, but laterally offset.

**[0029]** Figures 4 and 5, show representative sets of display panels 414a, 414b, 414c and 414d, and 414e, 414f, 414g and 414h (Fig. 4), and 514a, 514b, 514c and

514d, and 514e, 514f, 514g and 514h (Fig. 5), according to further embodiments of the invention. The embodiment of Fig. 4 includes panels of different shapes, namely rectangular panels and non-rectangular panels having upper and lower corner sections of their attached sides removed. Each successive underlying panel of the embodiment of Fig. 4 extends beyond an overlying panel on all three unattached sides, producing a center-out, framed appearance. The overlying panels of the Fig. 5 embodiment are generally rectangular with one corner of their unattached sides removed, and the base panels 515d, 515h are rectangular. Each successive underlying panel is longer and wider than its overlying panel, and the tops of all panels in each set are aligned.

**[0030]** Each display panel preferably comprises at least one display surface for displaying information or displayed material such as carpet, wood flooring, laminate, vinyl, ceramic, rugs, and other floor covering products, wallpaper, paneling, paint, wrapping paper, fabric, paper, posterboard, roofing material, other coatings, objects or materials, and/or associated marketing information, pricing, etc. Optionally, each display panel may display more than one displayed material. For example, a single display panel optionally displays a sample of carpet and one or more samples of paint in a coordinated color scheme. In another optional alternate embodiment of the invention, adjacent display panels in a set display different materials (e.g., carpet, wallpaper, roofing, paint and trim color, etc.) in a coordinated color scheme. Preferably, each display panel comprises two display surfaces, one display surface on each side of the panel.

**[0031]** The invention also comprises methods of displaying material and/or information. A first piece of material or information is preferably displayed on a first panel, and a second piece of material or information is preferably displayed on a second panel, with the material or information preferably extending substantially to the free edge of the first and second panels. The second panel is coupled to the first panel whereby the second panel overlies at least a portion of the first panel. At least a

portion of the first panel extends beyond an adjacent edge of the second panel, so that an observer can simultaneously view at least a portion of the material or information displayed on each display panel without moving the second panel. The second panel preferably can be moved (for example, by way of a hinge or other pivotal coupling) to allow the observer to view the entirety of the first panel. In similar fashion, the invention can be extended to a method of displaying material on one or more arrays of three, four or more display panels, whereby each successive underlying display panel preferably has at least one dimension that is larger than an overlying panel, such that a portion of each panel is visible to an observer, even when underlying panels are partially covered by an overlying panel.

**[0032]** The invention further includes a method of displaying samples of displayed materials on display panels in an array. Larger panels of each array have larger samples of displayed materials mounted thereon. Optionally, the method includes displaying progressively more expensive materials using progressively larger sample sizes. In another aspect, the invention comprises a method of displaying samples of material on one or more panels that partially overlie a story-board portion of a display device.

**[0033]** While the invention has been described with reference to preferred and example embodiments, it will be understood by those skilled in the art that a number of modifications, additions and deletions are within the scope of the invention, as defined by the following claims.